Daily Forecast - (3, 5, 7, 10, 15 Day) - v3.0

Domain Portfolio: Forecast | Domain: Daily Forecasts | Usage Classification: Standard

Geography: Global **Attribution Required:** NO **Attribution Requirements:** N/A

Overview

The Daily Forecast API is sourced from the The Weather Company Forecast system. This TWC API returns weather forecasts starting on the current day. Your content licensing agreement with TWC determines the number of days returned in the API response and is constrained by the API Key that is provided to your company. Please refer to the Data Elements section later in this document for more details.
Note: All wind values are calculated based on wind status 10 meters above ground.

NOTE: Subscribers to the TWC Core Package receive access to the 3,5,7, and 10 Day Forecasts. Subscribers to the TWC Enhanced Forecast Package receive access to the 15 Day Forecast.

Your content licensing agreement determines the specific endpoint authorized by the API Key entitlements that is provided to your company.

Each time segment duration (3, 5, 7, 10, 15) is an atomic API endpoint. Your API key must be authorized for each individual atomic API endpoint to successfully request a given API endpoint.

- **For example if your API key is authorized for only the 5 Day, and you attempt to request a 15 Day duration, you will get an error stating: ”Access Denied”.**

HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

Forecast Composition

The TWC daily forecast product can contain multiple days of daily forecasts for each location. Each day of a forecast can contain up to (2) "temporal segments" and one daily summary forecast, resulting in up to three separate forecasts. For any given forecast day we offer day (7am - 7pm), night (7pm - 7am), and a 24-hour forecast (daily summary). Implementing our forecasts requires your applications to perform basic processing in order to properly ingest the forecast data feeds.

Forecast Implementation

The data values in this API are correctly populated into day and/or night temporal segments and one daily summary forecast. The 24-hour temporal segment is represented by the top-level object. The day and night segments are interlaced within the daypart object.

PLEASE NOTE: The "0th index" of all the fields within the daypart object (i.e. daypart[0].{field}[0]) as well as the temperatureMax field in the top-level object will appear as null in the API after 3:00pm Local Apparent Time. The temperatureMax for the 24-hour temporal segment typically has already occurred at this point in the day and would no longer be a valid forecast. If needed, further details can still be obtained using the **Hourly Forecast - (2 Day, 15 Day)** product. The “calendarDayTemperatureMax” field in the top-level object will continue to display in the API throughout the day.

The daily forecast response will transition at 3:00am Local Apparent Time. At this time, the “0th index” day of the week will transition to the current date, including the Day and Night daypart object pair spanning 7am-7am, and a new day’s forecast will be made available. For example, at 3am on Monday, the prior day’s forecast for Sunday will be removed from the API response. The Monday forecast will then be the “0th index” in the response.

Translated Fields:

This TWC API handles the translation of phrases for values of the following data. When formatting a request URL a valid language must be passed along (see the language code table for the supported codes).

- dayOfWeek
- daypartName
- moonPhase
- narrative
- qualifierPhrase
- uvDescription
- windDirectionCardinal
- windPhrase
- wxPhraseLong

Weather Company Data Package	Atomic Endpoints	Aggregate Product Names
Weather Company Data - Core	v3/wx/forecast/daily/3day	v3-wx-forecast-daily-3day
Weather Company Data - Core	v3/wx/forecast/daily/5day	v3-wx-forecast-daily-5day
Weather Company Data - Core	v3/wx/forecast/daily/7day	v3-wx-forecast-daily-7day
Weather Company Data - Core	v3/wx/forecast/daily/10day	v3-wx-forecast-daily-10day
Weather Company Data - Enhanced Forecast	v3/wx/forecast/daily/15day	v3-wx-forecast-daily-15day

URL Construction

Request by Geocode: Required Parameters: geocode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/daily/7day?**geocode=33.74,-84.39&format=json&units=e&language=en-US&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/daily/15day?**geocode=33.74,-84.39&format=json&units=e&language=en-US&apiKey=yourApiKey**
Request by IATA Code: Required Parameters: iataCode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/daily/7day?**iataCode=DEN&units=e&language=en-US&&format=json&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/daily/15day?**iataCode=DEN&units=e&language=en-US&&format=json&apiKey=yourApiKey**
Request by ICAO Code: Required Parameters: icaoCode, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/daily/7day?**icaoCode=KDEN&units=e&language=en-US&format=json&apiKey=yourApiKey** https://api.weather.com/v3/wx/forecast/daily/15day?**icaoCode=KDEN&units=e&language=en-US&format=json&apiKey=yourApiKey**
Request by Place ID: Required Parameters: placeid, units, language, format, apiKey
https://api.weather.com/v3/wx/forecast/daily/7day?**placeid=327145917e06d09373dd2760425a88622a62d248fd97550eb4883737d8d1173b&units=e&language=en-US&format=json&apiKey=yourApiKey**

https://api.weather.com/v3/wx/forecast/daily/15day?**placeid=327145917e06d09373dd2760425a88622a62d248fd97550eb4883737d8d1173b&units=e&language=en-US&format=json&apiKey=yourApiKey**

Request by Postal Key: Required Parameters: postalKey, units, language, format, apiKey

https://api.weather.com/v3/wx/forecast/daily/7day?**postalKey=81657:US&units=e&language=en-US&format=json&apiKey=yourApiKey**
https://api.weather.com/v3/wx/forecast/daily/15day?**postalKey=81657:US&units=e&language=en-US&format=json&apiKey=yourApiKey**

Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

Field Name	Description	Type	Range	Sample	Nulls Allowed
dayOfWeek	Day of week	[string]	Sunday, Monday, Tuesday, Wednesday, Thursday, Friday, Saturday	Thursday	N
expirationTimeUtc	Expiration time in UNIX seconds	[epoch]		1369252800	N
moonPhase	Description phrase for the current lunar phase	[string]		Waning Gibbous	N
moonPhaseCode	3 character short code for lunar phases	[string]	WNG, WXC, FQ, WNC, LQ, F, WXG, N	WNG	N
moonPhaseDay	Day number within monthly lunar cycle	[integer]	0 through 29	4	N
moonriseTimeLocal	First moonrise in local time. It reflects daylight savings time conventions.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
moonriseTimeUtc	Moonrise time in UNIX epoch value	[epoch]		1369252800	Y
moonsetTimeLocal	First Moonset in local time. It reflects daylight savings time conventions.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
moonsetTimeUtc	Moonset time in UNIX epoch value	[epoch]		1369252800	Y
narrative	The narrative forecast for the 24-hour period. When the max or min temperature is over 100°F or below 0°F, this field will revert to different wording. See the sample section for examples. When the specific temperature is provided rather than a range, the temperature will show along with the unit (°F) .	[string]	Up to 256 characters.	A few thunderstorms possible. Lows overnight in the low 60s. "Mostly sunny. Highs 106 to 110F and lows in the upper 80s." “Some afternoon snow showers, windy. Highs in the low 20s and lows in the low single digits."	N
qpf	The forecasted measurable precipitation (liquid or liquid equivalent) during the 12 or 24 hour period. Units - Expressed in inches when units=e, expressed in millimeters when units=m	[decimal]		0.06	N
qpfSnow	The forecasted measurable precipitation as snow during the 12 or 24 hour forecast period. Units - Expressed in inches when units=e, expressed in centimeters when units=m	[decimal]		1.3	N
sunriseTimeLocal	The local time of the sunrise. It reflects any local daylight savings conventions. For a few Arctic and Antarctic regions, the Sunrise and Sunset data values may be the same (each with a value of 12:01am) to reflect conditions where a sunrise or sunset does not occur.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y
sunriseTimeUtc	Sunrise time in UNIX epoch value	[epoch]		1369252800	Y
sunsetTimeLocal	The local time of the sunset. It reflects any local daylight savings conventions. For a few Arctic and Antarctic regions, the Sunrise and Sunset data values may be the same (each with a value of 12:01am) to reflect conditions where a sunrise or sunset does not occur.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	Y

sunsetTimeUtc	Sunset time in UNIX epoch value	[epoch]		1369252800	Y
temperatureMax	Daily maximum temperature. This temperature is equivalent to the day daypart temperature.	[integer]		82	Y
temperatureMin	Daily minimum temperature. This temperature is equivalent to the night daypart temperature.	[integer]		59	N
validTimeUtc	Time forecast is valid in UNIX seconds	[epoch]		1369306800	N
validTimeLocal	Time forecast is valid in local apparent time.	[ISO]	YYYY-MM-DDTHH:MM:SS-NNNN; NNNN=GMT offset	2014-08-20T10:47:59-0500	N
calendarDayTemperatureMax	The midnight to midnight daily maximum temperature for the given day. See appendix for more details.	[integer]		82	Y
calendarDayTemperatureMin	The midnight to midnight daily minimum temperature for the given day. See appendix for more details	[integer]		65	Y
OBJECT: daypart **NOTE: For the purposes of this product day(D) = 7am to 7pm and night(N) = 7pm to 7am**					
cloudCover	Daytime average cloud cover expressed as a percentage.	[integer]	0 - 100	82	Y
dayOrNight	Day or night indicator	[string]	D, N	D	Y
daypartName	The name of a 12 hour daypart not including day names in the first 48 hours.	[string]	Today, Tonight	Today	Y
iconCode	This number is the key to the weather icon lookup. The data field shows the icon number that is matched to represent the observed weather conditions.	[integer]		26	Y
iconCodeExtend	Code representing full set sensible weather	[integer]		3200	Y
narrative	The narrative forecast for the daytime period.	[string]		A few thunderstorms possible. Lows overnight in the low 60s.	Y
precipChance	Maximum probability of precipitation.	[integer]		20	Y
precipType	Type of precipitation to display with the probability of precipitation (pop) data element.	[string]	rain, snow, precip	rain	Y
qpf	The forecasted measurable precipitation (liquid or liquid equivalent) during the 12 hour forecast period.	[decimal]		0.04	Y
qpfSnow	The forecasted measurable precipitation as snow during the 12 hour forecast period.	[decimal]		5.3	Y
qualifierPhrase	A phrase associated to the qualifier code describing special weather criteria.	[string]		Winds could occasionally gust over 70 mph.	Y
relativeHumidity	The relative humidity of the air, which is defined as the ratio of the amount of water vapor in the air to the amount of vapor required to bring the air to saturation at a constant temperature. Relative humidity is always expressed as a percentage.	[integer]	0 - 100	83	Y
snowRange	Snow accumulation amount for the 12 hour forecast period.	[string]	<1 - 30+	3-5	Y
temperature	The maximum temperature between 7am and 7pm for daytime temperature and the minimum temperature between 7pm and 7am for nighttime temperature. Minimum temperature also incorporates hourly forecasts up to and including 8am the next morning, to better capture morning lows.	[integer]		81	Y
temperatureHeatIndex	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of warm temperatures and high humidity. Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.	[integer]		84	Y
temperatureWindChill	An apparent temperature. It represents what the air temperature “feels like” on exposed human skin due to the combined effect of the cold temperatures and wind speed.	[integer]		68	Y

	Units - Expressed in fahrenheit when units=e, expressed in celsius when units=m, s, or h.				
thunderCategory	The description of probability thunderstorm activity in an area for 12 hour daypart. 0 = "No thunder"; 1 = "Thunder possible"; 2 = "Thunder expected"; 3 = "Severe thunderstorms possible"; 4 = "Severe thunderstorms likely"; 5 = "High risk of severe thunderstorms"	[string]	0 = "No thunder"; 1 = "Thunder possible"; 2 = "Thunder expected"; 3 = "Severe thunderstorms possible"; 4 = "Severe thunderstorms likely"; 5 = "High risk of severe thunderstorms"	Severe thunderstorms possible	Y
thunderIndex	The enumeration of thunderstorm probability within an area for a 12 hour daypart.	[integer]	0 - 5	3	Y
uvDescription	The UV Index Description which complements the UV Index value by providing an associated level of risk of skin damage due to exposure. -2 = Not Available, -1 = No Report, 0 to 2 = Low, 3 to 5 = Moderate, 6 to 7 = High, 8 to 10 = Very High, 11 to 16 = Extreme	[string]	Not Available, No Report, Low, Moderate, High, Very High, Extreme	Low	Y
uvIndex	Maximum UV index for the 12 hour forecast period.	[integer]		2	Y
windDirection	Average wind direction in magnetic notation.	[integer]	0 - 359	148	Y
windDirectionCardinal	Average wind direction in cardinal notation.	[string]	N , NNE , NE, ENE, E, ESE, SE, SSE, S, SSW, SW, WSW, W, WNW, NW, NNW	SE	Y
windPhrase	The phrase that describes the wind direction and speed for a 12 hour daypart.	[string]		Winds SSE at 5 to 10 mph.	Y
windSpeed	The forecast of the maximum sustained wind speed over the 12 hour forecast period. The wind is treated as a vector; hence, winds must have direction and magnitude (speed). The wind information reported in the forecast corresponds to a 10-minute average called the sustained wind speed. Sudden or brief variations in the wind speed are known as “wind gusts” and are reported in a separate data field. Wind directions are always expressed as "from whence the wind blows" meaning that a North wind blows from North to South. If you face North in a North wind the wind is at your face. Face southward and the North wind is at your back.	[integer]		7	Y
wxPhraseLong	Sensible weather phrase	[string]	Hourly sensible weather phrase up to 32 characters. Note: The character limit applies to English phrases only. For other languages this phrase may exceed 32 characters.	Heavy Rain/Wind	Y
wxPhraseShort	Sensible weather phrase	[string]	Hourly sensible weather phrase up to 12 characters.	Windy	Y

JSON Sample


```
// Response Collapsed for Presentation Purposes
{
        "calendarDayTemperatureMax": [88,88 ],
        "calendarDayTemperatureMin": [70,62 ],
        "dayOfWeek": ["Saturday","Sunday"],
        "expirationTimeUtc": [1474132620,1474132620],
        "moonPhase": ["Waning Gibbous","Waning Gibbous"],
        "moonPhaseCode": ["WXG","WXG"],
        "moonPhaseDay": ["10","11"],
        "moonriseTimeLocal": ["2016-09-17T20:30:02-0400","2016-09-18T21:12:36-0400"],
        "moonriseTimeUtc": [1474158602,1474247556 ],
        "moonsetTimeLocal": ["2016-09-17T08:08:29-0400","2016-09-18T09:16:30-0400 ],
```

```
"moonsetTimeUtc": [1474114109,1474204590 ],
"narrative": ["Mix of sun and clouds. Highs in the upper 80s and lows in the low 70s.","Showers and thunderstorms late. Highs in the upper 80s."],
"qpf": [0,0.2],
"qpfSnow": [0,0 ],
"sunriseTimeLocal": ["2016-09-17T07:21:26-0400","2016-09-18T07:22:05-0400"],
"sunriseTimeUtc": [1474111286,1474197725 ],
"sunsetTimeLocal": ["2016-09-17T19:39:03-0400","2016-09-18T19:37:41-0400" ],
"sunsetTimeUtc": [1474155543,1474241861 ],
"temperatureMax": [88,88 ],
"temperatureMin": [70,71 ],
"validTimeLocal": ["2016-09-17T07:00:00-0400","2016-09-18T07:00:00-0400" ],
"validTimeUtc": [1474110000,1474196400],
"daypart": [
  {
    "cloudCover": [44,63 ],
    "dayOrNight": ["D","N" ],
    "daypartName": [ "Today","Tonight" ],
    "iconCode": [30,29 ],
    "iconCodeExtend": [3000,2900 ],
    "narrative": ["A mix of clouds and sun. High 88F. Winds SE at 5 to 10 mph.","Partly cloudy this evening with more clouds for overnight." ],
    "precipChance": [0,20 ],
    "precipType": [rain,precip ],
    "qpf": [0,0 ],
    "qpfSnow": [0,0 ],
    "qualifierPhrase": [null,"Slight chance of a rain shower." ],
    "relativeHumidity": [48,79 ],
    "snowRange": ["","" ],
    "temperature": [88,70 ],
    "temperatureHeatIndex": [90,86 ],
    "temperatureWindChill": [84,71 ],
    "thunderCategory": ["No thunder","No thunder" ],
    "thunderIndex": [0,0 ],
    "uvDescription": ["Very High","Low" ],
    "uvIndex": [8,0 ],
    "windDirection": [136,159 ],
    "windDirectionCardinal": ["SE","SSE" ],
    "windPhrase": ["Winds SE at 5 to 10 mph.","Winds light and variable." ],
    "windSpeed": [7,3 ],
    "wxPhraseLong": ["Partly Cloudy","Partly Cloudy" ],
    "wxPhraseShort": ["P Cloudy","P Cloudy"]
  }
```

Appendix

Daily Forecast Temperature Max and Min

The daily summary object contains two pairs of temperature maximum and minimum values. They represent the high and low temperatures for the given day in different temporal resolutions.

Field	Description	Temporal Representation
temperatureMax	The daily maximum temperature. This temperature is equivalent to the day daypart temperature.	7:00 AM Local - 7:00 PM Local (12 Hours)
temperatureMin	The daily minimum temperature. This temperature is equivalent to the night daypart temperature.	7:00 PM Local - 7:00 AM Local (12 Hours)
calendarDayTemperatureMax	The midnight to midnight daily maximum temperature for the given day.	12:00 AM Local - 12:00 AM Local (24 Hours)
calendarDayTemperatureMin	The midnight to midnight daily minimum temperature for the given day.	12:00 AM Local - 12:00 AM Local (24 Hours)

Suggested Use

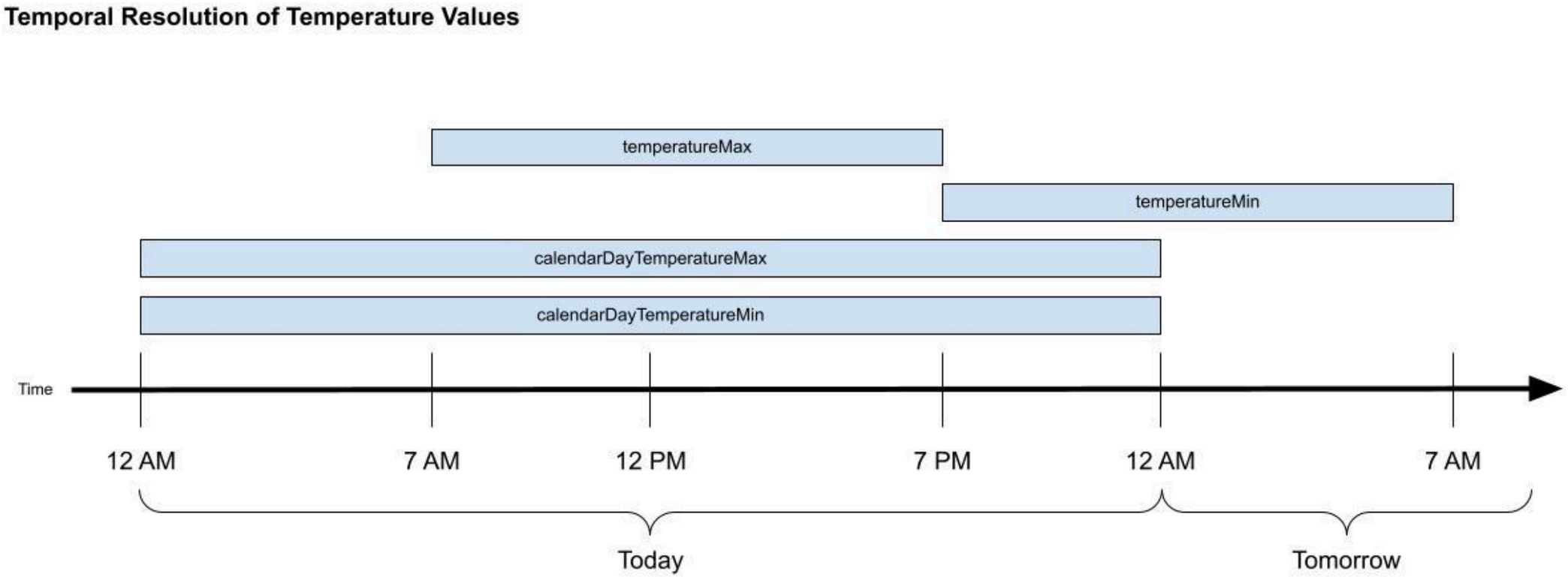
temperatureMax / temperatureMin

When using or displaying the temperature maximum and minimum for a given day, the recommended fields are temperatureMax and temperatureMin. These fields align directly with the day and night daypart objects, including narratives and iconCodes, which will ensure consistency throughout the data elements.

These temperature values are always forward-looking as a forecast. The temperatureMax field represents the daytime high, and the temperatureMin field represents the nighttime low. As such, the temperatureMax and temperatureMin fields are best used to display forecasted maximum and minimum temperatures over multiple days (i.e today's daytime high, tonight's nighttime low, tomorrow's daytime high, tomorrow's nighttime low etc).

calendarDayTemperatureMax / calendarDayTemperatureMin

The calendarDayTemperatureMax and calendarDayTemperatureMin fields encapsulate the absolute high and low temperatures within a calendar day defined by a midnight to midnight time period. These values can provide a high or low temperature that occurred in the past within the provided day. These fields do have limitations. They are unique in that they are the only fields that follow a midnight to midnight definition, rather than the 7-to-7 definition. This does result in some ambiguity as to when the minimum and maximum temperatures will occur within the day, which does not exist with the temperatureMax and temperatureMin fields.

The distinct field pairs should not be used interchangeably as they represent unique values.

Daily Forecast Visual